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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,965	10/15/2003	David W. Bainbridge	2400/14(b)	8637
7590	04/26/2005		EXAMINER	VO, HAI
Jack C. Sloan, Esq. Dorr, Carson, Sloan, Birney, P.C. 3010 East 6th Avenue Denver, CO 80206			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/685,965	Applicant(s) BAINBRIDGE, DAVID W.
	Examiner Hai Vo	Art Unit 1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

Disposition of Claims

4) Claim(s) 1-35 is/are pending in the application.
4a) Of the above claim(s) 34 and 35 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-33 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 15 October 2003 is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0222, 0813, 0206..

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ .

5) Notice of Informal Patent Application (PTO-152)

6) Other: ____ .

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-33, drawn to a composite material, classified in class 428, subclass 304.4+.
 - II. Claims 34 and 35, drawn to a polymeric bead, classified in class 428, subclass 543.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as packaging material and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with W. Scott Carson on 04/07/2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-33. Affirmation of this election must be made by applicant in replying to this Office action. Claims 34 and 35 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 27 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 27, the phrase "cloth-like" renders the claim indefinite because the claim includes elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by

the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-8, 12, 14-20, and 24-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Bainbridge et al (US 6,357,054) as evidenced by Kinoshita et al (WO 00/39224). US 6,770,373 is relied on as an equivalent form of WO 00/39224.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Bainbridge discloses a breathable padding material comprising a plurality of plastic beads having an average diameter between 0.05 to 0.5 inch (1.27 to 12.7 mm) (column 5, lines 10-15) within the claimed range. The plastic beads are treated with corona before fusing together with an adhesive (column 15, lines 10-12). The adhesive is a water-based urethane or neoprene, which reads on Applicant's thermoplastic or thermosetting adhesive. Kinoshita evidences the water-based urethane comprising a hardener, which reads on Applicant's two-part resin. Bainbridge discloses the beads having void volume from 25% to 35% (column 5, lines 35-36). Bainbridge discloses the padding material placed in a

cloth-like casing or net-like casing (column 4, line 64 et seq.). The padding is used in combination with a hard plastic outer shell (figure 3). Bainbridge is silent as to the amount of the adhesive and adhesive hardness. However, the amount of adhesive and the hardness are dictated by the nature of the adhesive, the particle size of the beads and the void volume of the padding. It appears that Bainbridge uses the same material to form an adhesive. The padding material is comprised of the beads with the bead size and void volume within the claimed ranges. Therefore, it is the examiner's position that the amount of adhesive and adhesive hardness would be inherently present so as to enable the padding material to have the void volume within the claimed range.

Bainbridge does not specifically disclose at least 50% of the beads being at least 50% coated with an adhesive. It appears that the padding material of Bainbridge comprises a plurality of corona treated adhesive coated beads having average diameters within the claimed range. The adhesive is a thermosetting resin or a thermoplastic resin. The padding material has a void volume within the claimed range. The beads can be made from different materials with different sizes and different shapes. Therefore, it is the examiner's position that at least 50% of the beads would be inherently at least 50 percent coated with an adhesive. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete. Accordingly, Bainbridge anticipates the claimed subject matter.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-8, 12, 15-20, and 22-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickerson et al (US 6,301,722) in view of DVD disc "Lectro Engineering Company, MTM Systems." Nickerson discloses a breathable padding material comprising a plurality of plastic beads having an average diameter between 0.05 to 0.5 inch (1.27 to 12.7 mm) (column 7, line 5) within the claimed range. The plastic beads are fusing together with an adhesive (column 15, lines 10-12). The adhesive first exists as a liquid while in initial contact with the beads and then is cured to full strength (column 6, lines 28-32). Likewise, the adhesive is a two part resin and a thermosetting adhesive. The adhesive remains as flexible as possible in use while still holding the beads (column 6, lines 34-35). Likewise, the adhesive is a thermoplastic resin. Nickerson discloses the beads having void volume of 35% (column 6, line 43). Nickerson discloses the padding material placed in a cloth-like casing or net-like casing (figure 4, column 3, lines 50-55, column 4, lines 55-65). The padding is used in combination with a hard plastic outer shell. Nickerson is silent as to the amount of the adhesive and adhesive hardness. However, the amount of adhesive and

the hardness is dictated by the nature of the adhesive, the particle size of the beads and the void volume of the padding. It appears that Nickerson uses the same material to form an adhesive. The padding material has the bead size and void volume within the claimed ranges. Therefore, it is the examiner's position that the amount of adhesive and hardness would be inherently present so as to enable the padding material to have the void volume within the claimed range. Nickerson does not specifically disclose the beads being treated with plasma before fusing together with an adhesive. A DVD disc "Lectro Engineering Company, MTM Systems" shows that the powdered material having a surface treated with plasma discharge to provide an increase in the surface energy of the material, thereby enhancing adhesive strength of the material. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the surface of the polyethylene beads treated with the plasma discharge prior to the adhesive coating motivated by the desire to provide an increase in the surface energy of the beads, thereby enhancing adhesive strength between the adhesive and the beads.

Nickerson does not specifically disclose at least 50% of the beads being at least 50% coated with an adhesive. It appears that the padding material of Nickerson as modified by DVD comprises a plurality of corona treated adhesive coated beads having average diameters within the claimed range. The adhesive is a thermosetting resin or a thermoplastic resin. The padding material has a void volume within the claimed range. The beads can be made from different

materials with different sizes and different shapes. Therefore, it is the examiner's position that at least 50% of the beads would be inherently at least 50 percent coated with an adhesive. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete.

Nickerson as modified by DVD does not specifically disclose that the beads are electrical excitation treated more than once to accomplish more than one kind of treatment. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the examiner's position that the foam plate of Nickerson as modified by DVD is identical to or only slightly different than the claimed composite structure prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity as discussed above. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Nickerson/DVD.

8. Claims 1-8, 12, 15-18, 22-25, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara et al (US 4,034,506) in view of DVD disc "Lectro Engineering Company, MTM Systems." Kasahara discloses a porous foam plate disposed on the surface of water contained in the casing comprising an aggregate of foamed polyethylene beads having a diameter 2 to 20 mm (column 2, line 66) within the claimed range. Kasahara discloses the foamed

polyethylene beads being coated with a liquid adhesive that represents about 52 wt% of the foam plate (reference example, column 7, lines 5 and 11). The liquid adhesive comprises an aryllic emulsion or an epoxy emulsion with a hardener (column 3, lines 15-30). Likewise, the adhesive is made from a two-part thermoplastic resin or a two-part thermosetting resin. Kasahara discloses a porous foam plate having a porosity of 37 volume percent and continuous open spaces among the adjacent beads which reads on Applicant's regular void distribution (column 7, lines 38, and abstract). Kasahara discloses the granular bead which reads on Applicant's spherical shape (column 5, line 60). Kasahara does not disclose the ellipsoid shape of the bead. However, the bead has a diameter within the claimed range and it appears the shape is dictated by the bead diameter. Therefore, it is not seen that the bead of Kasahara could have a shape different than that of the bead of the present invention. Kasahara does not disclose the inelastic or elastic properties of the bead. However, Kasahara uses the same material to form a bead as Applicant, i.e., polyethylene or polystyrene, it is the examiner's position that the inelastic or elastic properties should be inherently present. Like material has like property. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. The same token is applied to the hardness of the adhesive. Kasahara discloses that the adhesive is cured from a liquid state while in initial contact with the beads. The adhesive is a two-part thermosetting resin or a two-part thermoplastic resin. Therefore, it is the

examiner's position that hardness of the adhesive would be inherently present.

This is also in line with *In re Spada*, 15 USPQ 2d 1655 (1990). Kasahara does not specifically disclose the beads being treated with plasma prior to adhesive coating. A DVD disc "Lectro Engineering Company, MTM Systems" shows that the powdered material having a surface treated with plasma discharge to provide an increase in the surface energy of the material, thereby enhancing adhesive strength of the material. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the surface of the polyethylene beads treated with the plasma discharge prior to the adhesive coating motivated by the desire to provide an increase in the surface energy of the beads, thereby enhancing adhesive strength between the adhesive and the beads.

It appears that the foam plate of Kasahara as modified by DVD comprises a plurality of plasma treated adhesive coated beads having average diameters within the claimed range. The liquid adhesive is made from a two-part resin, either thermoplastic resin or thermosetting resin. The adhesive would inherently have a hardness within the claimed range. The adhesive is present in an amount within the claimed range. The foam plate has a void volume within the claimed range. Therefore, it is the examiner's position that at least 50% of the beads would be inherently at least 50 percent coated with an adhesive. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete.

The preamble “construction material”, “padding material” have not given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

Applicant states that the bead size differential helps give the applicant's padding materials their quality of “breathability” (page 12 of the amendment dated 12/03/2003). Kasahara discloses the beads having the size within the range required by the claims, therefore; the examiner found no reasons that the foam plate of Kasahara could not inherently have the breathability as the padding material of the present invention.

Kasahara as modified by DVD does not specifically disclose that the beads are electrical excitation treated more than once to accomplish more than one kind of treatment. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the examiner's position that the foam plate of Kasahara as modified by DVD is identical to or only slightly different than the claimed composite structure prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity as discussed above. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present

invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Kasahara/DVD.

9. Claims 1-13, 15, 16, 18-20, 22-26, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritschel (US 3,856,721) in view of DVD disc "Lectro Engineering Company, MTM Systems." Fritschel discloses that a syntactic foam for uses in instrument packaging is made from a blend of an adhesive and beads. The adhesive is a liquid copolymer of butadiene-styrene and vinyl toluene (column 1, lines 5-10, 60-63, and column 2, lines 1-10). Fritschel discloses the adhesive comprising a curing agent. Likewise, the adhesive is a two-part thermoplastic resin. Fritchel discloses that the beads can be made from a thermoplastic material (column 2, lines 5-10). The beads are hollow glass microspheres (column 1, lines 51-52). Fritschel discloses the syntactic foam comprising 80 parts of the adhesive and 20 parts of beads (table I). The plastic beads have a diameter from 20 microns to 1 inch (0.02 to 25.4 mm) encompassing the claimed range (column 1, line 67 et seq.). Fritschel discloses both low temperature and high temperature plastic beads can be used (column 2, lines 8-10). Likewise, the beads are made of different polymeric materials. It appears that Fritschel is using the same material to make the beads as Applicants, such as glass or polyethylene resin (column 2, lines 64-65). Fritschel discloses that the beads of different sizes can be used (column 2, lines 4-5). It is the examiner's position that elasticity and inelasticity properties would be inherently present. This is also in line with In re Spada. Fritschel does not

specifically disclose the hardness of the adhesive. However, Fritschel discloses that the adhesive is cured from a liquid state while in initial contact with the beads. That is exactly the same adhesive being used by Applicant. The amount of the adhesive meets the specific range set out in the claims. Therefore, it is the examiner's position that the hardness would be inherently present. Like material has like property. This is also in line with *In re Spada*. Fritschel does not disclose the ellipsoid shape of the bead. However, the bead has a diameter within the claimed range and it appears the shape is dictated by the bead diameter. Therefore, it is not seen that the bead of Fritschel could have a shape different than that of the bead of the present invention. Fritschel does not specifically disclose the syntactic foam comprising the beads being treated with plasma prior to being coated with the adhesive. A DVD disc "Lectro Engineering Company, MTM Systems" shows that the powdered material having a surface treated with plasma discharge to provide an increase in the surface energy of the material, thereby enhancing adhesive strength of the material. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the surface of the polyethylene beads treated with the plasma discharge prior to the adhesive coating motivated by the desire to provide an increase in the surface energy of the beads, thereby enhancing adhesive strength between the adhesive and the beads.

Fritschel does not specifically disclose the void volume and at least 50% of the beads being at least 50 percent coated with an adhesive. However, the

syntactic foam of Fritschel meets all the requirements of the claims. The syntactic foam comprises of plurality of plasma treated plastic beads coated with an adhesive. The adhesive is cured from a liquid state while in initial contact with the beads. The amount of the adhesive meets the specific range set out in the claims. The bead has a size encompassing the claimed range. The beads are hollow glass microspheres or solid thermoplastic particles. Therefore, it is the examiner's position that the void volume and at least 50% of the beads being at least 50 percent coated with an adhesive would be inherently present. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete.

The preamble "construction material", "padding material" have not given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

Applicant states that the bead size differential helps give the applicant's padding materials their quality of "breathability" (page 12 of the amendment dated 12/03/2003). Fritschel discloses the beads having the size within the range required by the claims (column 1, line 67 et seq.), therefore; the examiner found no reasons that the syntactic foam of Fritschel could not inherently have the breathability as the padding material of the present invention.

Fritschel as modified by DVD does not specifically disclose that the beads are electrical excitation treated more than once to accomplish more than one kind of treatment. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the examiner's position that the syntactic foam of Fritschel as modified by DVD is identical to or only slightly different than the claimed composite structure prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity as discussed above. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Fritschel/DVD.

10. Claim 14, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritschel (US 3,856,721) in view of DVD disc "Lectro Engineering Company, MTM Systems", as applied to claim 1 above, further in view of Meteer et al (US 5,888,642). Fritschel does not specifically disclose the beads made from a thermosetting material. Meteer, however, discloses a syntactic structural foam product wherein the beads are made from the thermosetting materials (column 4, lines 45-50). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the beads made from thermosetting materials motivated by the desire to provide a stronger

interbonding of the glass microspheres and a lower density syntactic core material (Meteer, column 3, lines 40-45).

Fritschel does not specifically disclose the adhesive made from a thermosetting material. Meteer, however, discloses a syntactic structural foam product wherein the adhesive is a phenolic resin (column 11, lines 45-50). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the adhesive made from a thermosetting material because such is intended use of the material and Meteer provides necessary details to practice the invention of Fritschel.

Fritschel does not specifically disclose the beads being coated with a coupling agent. Meteer, however, discloses a syntactic structural foam product wherein the microspheres are coated with a coupling agent (column 5, lines 51-53). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the beads coated with a coupling agent motivated by the desire to promote the adhesion strength between the beads and the adhesive.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The article "Applications For Plasma Surface Treatment in The Medical Industry," Kaplan et al, posted on 04/17/2000.
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-

1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

Hai Vo

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